Y7	Term 1: Cells and movement Energy costs and energy transfer Electricity Particle model	Term 2: Human reproduction and plant reproduction Separating mixtures Chemical reactions	Term 3: Earth in Space & forces and gravity Variation Acids and alkalis	Working scientifically: skills in science
BC9				
BC8				
BC7				
BC6				
BC5	Scores 75%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Make observations using a microscope and record them in simple drawings. Describe the differences between tissues, organs and organ systems, giving examples of each. Explain how muscles work in pairs to create movement. Describe how some cells in an organism are specialised to carry out particular functions. State the original source of our energy. State the units for energy. Give examples of energy stores.	Scores 75%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus. State the functions of key parts of the reproductive system. Describe the role of the placenta, umbilical cord and amniotic sac. Describe the different plant tissues and how they are needed for reproduction. Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name some soluble and insoluble solids; describe how pure water can be obtained from sea water. Explain how temperature effects solubility. Define the term 'saturation'. To identify the difference between physical and chemical reactions. To describe the tests for oxygen, hydrogen and	Scores 75%+ on the module 3 assessment. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe what a gravitational field is. Explain how to reduce friction. Describe elasticity in terms of tension and compression. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different environments. Recognise that inherited and environmental causes of variation cannot be completely separated. Name some common acids and alkalis	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis. Repeats have been made if this was appropriate.

	Describe an energy transfer. Describe the difference between renewable and non-renewable energy sources. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. State what diffusion is. Explain what happens to water molecules during changing of state. Understand what causes gas pressure. Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity. Investigate and fix some faulty circuits. Compare and contrast series and parallel circuits. Describe what electrical current is.	carbon dioxide gas. Use particle diagrams to show what happens in a reaction. Describe combustion as a reaction with oxygen in which energy is transferred to the surroundings as heat and light. Explain what happens in a thermal decomposition as a reaction.	stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values. Describe everyday uses of neutralisation. Name the planets in order. Know why we have day and night. Know the path of the sun through the sky during a day. Describe the phases of the moon. Describe the appearance of planets or moons from diagrams showing their position in relation to the Earth and Sun.	
BC4	Scores 60%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Make observations using a microscope and record them in simple drawings.	Scores 60%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus. State the functions of key parts of the reproductive system. Describe the role of the placenta, umbilical cord and amniotic sac.	Scores 60%+ on the module 3 assessment. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe what a gravitational field is. Explain how to reduce friction.	Uses the correct terms for independent and dependent variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and units in at least one column are correct. Student has constructed the table independently. No support has been given with regards to working

	Describe the differences between tissues, organs and organ systems, giving examples of each. Explain how muscles work in pairs to create movement. State the original source of our energy. State the units for energy. Give examples of energy stores Describe an energy transfer. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. State what diffusion is Explain what happens to water molecules during changing of state. Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity. Investigate and fix some faulty circuits. Compare and contrast series and parallel circuits.	Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name some soluble and insoluble solids; describe how pure water can be obtained from sea water. Explain how temperature effects solubility. .To identify the difference between physical and chemical reactions. To describe the tests for oxygen, hydrogen and carbon dioxide gas. Use particle diagrams to show what happens in a reaction. Describe combustion as a reaction with oxygen in which energy is transferred to the surroundings as heat and light.	Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different environments. Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values. Name the planets in order. Know why we have day and night Know the path of the sun through the sky during a day. Describe the phases of the moon.	out number of rows or columns or labelling headings. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis.

BC3	Scores 45%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Make observations using a microscope and record them in simple drawings. Describe the differences between tissues, organs and organ systems, giving examples of each. State the original source of our energy. State the units for energy. Give examples of energy stores. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. State what diffusion is. Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity. Investigate and fix some faulty circuits.	Scores 45%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus. State the functions of key parts of the reproductive system. Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name some soluble and insoluble solids; describe how pure water can be obtained from sea water. To identify the difference between physical and chemical reactions. To know the tests for oxygen, hydrogen and carbon dioxide gas. To describe the process of combustion.	Scores 45%+ on the module 3 assessment. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe what a gravitational field is. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Identify similarities and differences between predators and prey. Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis. Describe how to deal with hazards. Name the planets in order. Know why we have day and night. Know the path of the sun through the sky during a day.	Can identify all key variables, lists all equipment in a practical confidently, can identify all the hazards in an experiment, results are in a table and units are correct and can plot a line graph and bar chart with little guidance.
BC2	Scores 30%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells.	Scores 30%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus.	Scores 30%+ on the module 3 assessment. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction.	Can identify two or more variables, can list equipment in an experiment confidently, identifies two or more hazards in an experiment, can add units in a results table, plot points

	Make observations using a microscope and record them in simple drawings. State the original source of our energy. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. recognise that materials are made of particles. Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity.	Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas. To identify the difference between physical and chemical reactions. To describe the process of combustion and recognise the reactants needed. To describe the test for hydrogen.	Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Name some common acids and alkalis stating some everyday uses. Name the planets in order. Know why we have day and night.	on a graph and draw bars in a bar chart.
BC1	Scores 15%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. State the original source of our energy Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Identify circuit components by their symbols. Represent a simple circuit with a diagram.	Scores 15%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Using the particle model, classify materials as solid, liquid or gas. To identify the difference between physical and chemical reactions. To recognise the combustion chemical reaction.	Scores 15%+ on the module 3 assessment. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Name some common acids and alkalis stating some everyday uses. Name the planets in order.	Can identify one variable to control, can list equipment in experiments, can identify one hazard during a practical, can fill in a results table and plot points on a graph.

Y7	Term 1: Cells and movement Energy costs and energy transfer Electricity Particle model	Term 2: Human reproduction and plant reproduction Separating mixtures Chemical reactions	Term 3: Earth in Space & forces and gravity Variation Acids and alkalis	Working scientifically: skills in science
BC9	Scores 90%+ on the module 1 assessment. Identify and name features of cells and describe the differences between plant and animal cells. Make observations using a microscope and record them in detailed drawings. Describe the differences between tissues, organs and organ systems, giving examples of each. Explain how muscles work in pairs to create movement. Describe how some cells in an organism are specialised to carry out particular functions. Explain why multi-cellular organisms need a transport system. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. State what diffusion is. Explain what happens to water molecules during changing of state. Understand what causes gas pressure. Use the particle mode to classify materials as solids, liquids or gases and explain the classification of some 'difficult materials'. Describe examples of diffusion. Explain expansion and contraction in terms of particles. State the original source of our energy State the units for energy.	Scores 90%+ on the module 2 assessment. Names all the parts of the male and female reproductive system in detail. Know the length of pregnancy and describe the changes in the foetus. State the functions of key parts of the reproductive system. Describe the role of the placenta, umbilical cord and amniotic sac. Describe the different plant tissues and how they are needed for reproduction. Explain the importance of plant pollination. Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name as many soluble and insoluble solids; describe how pure water can be obtained from sea water. Explain how temperature effects solubility. Define the term 'saturation'. Use the particle model to explain a range of phenomena. To identify the difference between physical and chemical reactions. Predict the products of the combustion or thermal decomposition of a given reactant and show the reaction as a word equation. Use particle diagrams to show what happens in a reaction where mass is conserved.	Scores 90%+ on the module 3 assessment. Name the planets in order. Know why we have day and night. Know the path of the sun through the sky during a day. Describe the phases of the moon. Describe the appearance of planets or moons from diagrams showing their position in relation to the Earth and Sun. Explain why places on the Earth experience different daylight hours and amounts of sunlight during the year. Explain the choice of particular units for measuring distance. Explain why the Earth can support life. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe what a gravitational field is. Explain how to reduce friction. Describe elasticity in terms of tension and compression. Describe the term equilibrium. Explain a linear relationship between two variables when drawn on a graph. Explain Hooke's law.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student explains how each variable will be controlled and how it will affect the results if it was not controlled. Student explains why the data collection method they have chosen is the best for giving reproducible and precise results. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Student has said to repeat each experiment at least 3 times to get valid results. If repeat are not appropriate, student has explained why. If repeats were recorded, a mean value has been calculated. Student has identified anomalous results and has <u>not</u> included them when calculating the mean values. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts.

	Give examples of energy stores. Describe an energy transfer. Describe the difference between renewable and non-renewable energy sources. Evaluate the advantages and disadvantages of renewable energy resources. Evaluate the advantages and disadvantages of non-renewable energy sources . Identify circuit components by their symbols. Represent circuits with a diagram. Identify several ways to be safe around electricity. Investigate and fix some faulty circuits. Compare and contrast series and parallel circuits. Describe what electrical current is. Use an ammeter correctly to measure current in a circuit. Define resistance.	To identify an unknown gas using gas tests for hydrogen, oxygen and carbon dioxide. Explain why a reaction is an example of thermal decomposition.	Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different environments. Recognise that inherited and environmental causes of variation cannot be completely separated. Explain what might happen if the environment changes and how this might affect living things. Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values. Describe everyday uses of neutralisation. Explain how a neutral solution can be obtained and relate the pH of an acid or alkali to its hazards and corrosiveness. Write the word equations for making salts (neutralisation).	Students have independently labelled the axis.
BC8	Scores 78%+ on the module 1 assessment. Identify and name features of cells and describe the differences between plant and animal cells. Make observations using a microscope and record them in detailed drawings.	Scores 78%+ on the module 2 assessment. Names all the parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus in detail. State the functions of key parts of the reproductive system.	Scores 78%+ on the module 3 assessment. Name the planets in order. Know why we have day and night. Know the path of the sun through the sky during a day. Describe the phases of the moon.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student explains how each variable will be controlled and how it will

	Describe the differences between tissues, organs and organ systems, giving examples of each. Explain how muscles work in pairs to create movement. Describe how some cells in an organism are specialised to carry out particular functions. Explain why multi-cellular organisms need a transport system. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. State what diffusion is Explain what happens to water molecules during changing of state. Understand what causes gas pressure. Use the particle mode to classify materials as solids, liquids or gases and explain the classification of some 'difficult materials'. Describe examples of diffusion. Explain expansion and contraction in terms of particles. State the original source of our energy. State the units for energy. Give examples of energy stores. Describe an energy transfer. Describe the difference between renewable and non-renewable energy sources. Evaluate the advantages and disadvantages of renewable energy resources. Evaluate the advantages and disadvantages of non-renewable energy sources. Identify circuit components by their symbols. Represent circuits with a diagram. Identify several ways to be safe around electricity. Investigate and fix some faulty circuits.	Describe the role of the placenta, umbilical cord and amniotic sac. Describe the different plant tissues and how they are needed for reproduction. Explain the importance of plant pollination. Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name as many soluble and insoluble solids; describe how pure water can be obtained from sea water. Explain how temperature effects solubility. Define the term 'saturation'. Use the particle model to explain a range of phenomena. To identify the difference between physical and chemical reactions. Predict the products of the combustion or thermal decomposition of a given reactant and show the reaction as a word equation. Use particle diagrams to show what happens in a reaction where mass is conserved. To identify an unknown gas using gas tests for hydrogen, oxygen and carbon dioxide. Explain why a reaction is an example of thermal decomposition.	Describe the appearance of planets or moons from diagrams showing their position in relation to the Earth and Sun. Explain why places on the Earth experience different daylight hours and amounts of sunlight during the year. Explain the choice of particular units for measuring distance. Explain why the Earth can support life. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe what a gravitational field is. Explain how to reduce friction. Describe elasticity in terms of tension and compression. Describe the term equilibrium. Explain a linear relationship between two variables when drawn on a graph. Explain Hooke's law. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different environments. Recognise that inherited and environmental causes of variation cannot be completely separated.	affect the results if it was not controlled. Student explains why the data collection method they have chosen is the best for giving reproducible and precise results. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Student has said to repeat each experiment at least 3 times to get valid results. If repeat are not appropriate, student has explained why. If repeats were recorded, a mean value has been calculated. Student has identified anomalous results and has <u>not</u> included them when calculating the mean values. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis.

	Compare and contrast series and parallel circuits. Describe what electrical current is. Use an ammeter correctly to measure current in a circuit. Define resistance.		Explain what might happen if the environment changes and how this might affect living things. Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values. Describe everyday uses of neutralisation. Explain how a neutral solution can be obtained and relate the pH of an acid or alkali to its hazards and corrosiveness. Write the word equations for making salts (neutralisation).	
BC7	Scores 63%+ on the module 1 assessment. Identify and name features of cells and describe the differences between plant and animal cells. Make observations using a microscope and record them in detailed drawings. Describe the differences between tissues, organs and organ systems, giving examples of each. Explain how muscles work in pairs to create movement. Describe how some cells in an organism are specialised to carry out particular functions. Explain why multi-cellular organisms need a transport system. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. State what diffusion is.	Scores 63%+ on the module 2 assessment. Names all the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus in detail. State the functions of key parts of the reproductive system. Describe the role of the placenta, umbilical cord and amniotic sac. Describe the different plant tissues and how they are needed for reproduction. Explain the importance of plant pollination. Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name as many soluble and insoluble solids; describe how pure water can be obtained from sea water. Explain how temperature effects solubility. Define the term 'saturation'.	Scores 63%+ on the module 3 assessment. Name the planets in order. Know why we have day and night. Know the path of the sun through the sky during a day. Describe the phases of the moon. Describe the appearance of planets or moons from diagrams showing their position in relation to the Earth and Sun. Explain why places on the Earth experience different daylight hours and amounts of sunlight during the year. Explain the choice of particular units for measuring distance. Explain why the Earth can support life. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student explains how each variable will be controlled and how it will affect the results if it was not controlled. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Student has said to repeat each experiment at least 3 times to get valid results. If repeat are not appropriate, student has explained why. If repeats were recorded, a mean value has been calculated.

	Explain what happens to water molecules during changing of state. Understand what causes gas pressure. Use the particle mode to classify materials as solids, liquids or gases and explain the classification of some 'difficult materials'. Describe examples of diffusion. Explain expansion and contraction in terms of particles. State the original source of our energy. State the units for energy. Give examples of energy stores. Describe an energy transfer. Describe the difference between renewable and non-renewable energy sources. Evaluate the advantages and disadvantages of renewable energy resources. Evaluate the advantages and disadvantages of non-renewable energy sources. Identify circuit components by their symbols. Represent circuits with a diagram. Identify several ways to be safe around electricity. Investigate and fix some faulty circuits. Compare and contrast series and parallel circuits. Describe what electrical current is. Use an ammeter correctly to measure current in a circuit. Define resistance.	Use the particle model to explain a range of phenomena. To identify the difference between physical and chemical reactions. Identify when a chemical reaction is happening. Describe the equation for combustion. Describe thermal decomposition and give the reactants and show the reaction as a word equation. Use particle diagrams to show what happens in a reaction where mass is conserved. To describe the gas tests for hydrogen, carbon dioxide and oxygen. Explain why a reaction is an example of thermal decomposition.	Describe and give examples of friction. Describe what a gravitational field is. Explain how to reduce friction. Describe elasticity in terms of tension and compression. Describe the term equilibrium. Explain a linear relationship between two variables when drawn on a graph. Explain Hooke's law. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different environments. Recognise that inherited and environmental causes of variation cannot be completely separated. Explain what might happen if the environment changes and how this might affect living things. Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values. Describe everyday uses of neutralisation. Explain how a neutral solution can be obtained and relate the pH of an acid or alkali to its hazards and corrosiveness. Write the word equations for making salts (neutralisation).	Student has identified anomalous results and has <u>not</u> included them when calculating the mean values. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis.

BC6	Scores 57%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Make observations using a microscope and record them in simple drawings. Describe the differences between tissues, organs and organ systems, giving examples of each. Explain how muscles work in pairs to create movement. Describe how some cells in an organism are specialised to carry out particular functions. Explain why multi-cellular organisms need a transport system. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. State what diffusion is. Explain what happens to water molecules during changing of state. Understand what causes gas pressure. Use the particle mode to classify materials as solids, liquids or gases and explain the classification of some 'difficult materials'. State the original source of our energy. State the units for energy. Give examples of energy stores. Describe an energy transfer. Describe the difference between renewable and non-renewable energy sources. Evaluate the advantages and disadvantages of renewable energy resources. Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity Investigate and fix some faulty circuits.	Scores 57%+ on the module 2 assessment. Names all the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus in detail. State the functions of key parts of the reproductive system. Describe the role of the placenta, umbilical cord and amniotic sac. Describe the different plant tissues and how they are needed for reproduction. Explain the importance of plant pollination. Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name some soluble and insoluble solids; describe how pure water can be obtained from sea water. Explain how temperature effects solubility. Define the term 'saturation'. Use the particle model to explain a range of phenomena. To identify the difference between physical and chemical reactions. Identify when a chemical reaction is happening Describe the equation for combustion. Describe thermal decomposition and give the reactants and show the reaction as a word equation. Describe why mass is conserved in a chemical reaction. To describe the gas tests for hydrogen, carbon dioxide and oxygen.	Scores 57%+ on the module 3 assessment. Name the planets in order. Know why we have day and night Know the path of the sun through the sky during a day. Describe the phases of the moon. Describe the appearance of planets or moons from diagrams showing their position in relation to the Earth and Sun. Explain why places on the Earth experience different daylight hours and amounts of sunlight during the year. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe what a gravitational field is. Explain how to reduce friction. Describe elasticity in terms of tension and compression. Describe the term equilibrium. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different environments. Recognise that inherited and environmental causes of variation cannot be completely separated.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Student has said to repeat each experiment at least 3 times to get valid results. If repeat are not appropriate, student has explained why. If repeats were recorded, a mean value has been calculated. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis.

	Compare and contrast series and parallel circuits. Describe what electrical current is Use an ammeter correctly to measure current in a circuit. Define resistance.		Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values. Describe everyday uses of neutralisation. Explain how a neutral solution can be obtained and relate the pH of an acid or alkali to its hazards and corrosiveness.	
BC5	Scores 42%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Make observations using a microscope and record them in simple drawings. Describe the differences between tissues, organs and organ systems, giving examples of each. Explain how muscles work in pairs to create movement. Describe how some cells in an organism are specialised to carry out particular functions. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. State what diffusion is. Explain what happens to water molecules during changing of state. Understand what causes gas pressure. State the original source of our energy. State the units for energy. Give examples of energy stores. Describe an energy transfer.	Scores 42%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus. State the functions of key parts of the reproductive system. Describe the role of the placenta, umbilical cord and amniotic sac. Describe the different plant tissues and how they are needed for reproduction. Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name some soluble and insoluble solids; describe how pure water can be obtained from sea water. Explain how temperature effects solubility. Define the term 'saturation'. Describe what electrical current is. To identify the difference between physical and chemical reactions. Identify when a chemical reaction is happening. Describe combustion.	Scores 42%+ on the module 3 assessment. Name the planets in order. Know why we have day and night. Know the path of the sun through the sky during a day. Describe the phases of the moon. Describe the appearance of planets or moons from diagrams showing their position in relation to the Earth and Sun. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe what a gravitational field is. Explain how to reduce friction. Describe elasticity in terms of tension and compression. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis. Repeats have been made if this was appropriate.

	Describe the difference between renewable and non-renewable energy sources. Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity Investigate and fix some faulty circuits. Compare and contrast series and parallel circuits.	Describe thermal decomposition and give the reactants and show the reaction as a word equation. Know that mass is conserved in a chemical reaction To describe the gas tests for hydrogen, carbon dioxide and oxygen.	Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different environments. Recognise that inherited and environmental causes of variation cannot be completely separated. Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values. Describe everyday uses of neutralisation.	
BC4	Scores 33%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Make observations using a microscope and record them in simple drawings. Describe the differences between tissues, organs and organ systems, giving examples of each. Explain how muscles work in pairs to create movement. Name the planets in order. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. State what diffusion is. Explain what happens to water molecules during changing of state. State the original source of our energy. State the units for energy. Give examples of energy stores. Describe an energy transfer.	Scores 33%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus. State the functions of key parts of the reproductive system. Describe the role of the placenta, umbilical cord and amniotic sac. Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name some soluble and insoluble solids; describe how pure water can be obtained from sea water. Explain how temperature effects solubility. To identify the difference between physical and chemical reactions. Identify when a chemical reaction is happening. Describe combustion. Describe thermal decomposition.	Scores 33%+ on the module 3 assessment. Know why we have day and night. Know the path of the sun through the sky during a day. Describe the phases of the moon. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe what a gravitational field is. Explain how to reduce friction. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different environments.	Uses the correct terms for independent and dependent variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and units in at least one column are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis.

	Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity Investigate and fix some faulty circuits. Compare and contrast series and parallel circuits.	Know that mass is conserved in a chemical reaction. Conduct the gas tests for hydrogen, carbon dioxide and oxygen.	Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values.	
BC3	Scores 25%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Make observations using a microscope and record them in simple drawings. Describe the differences between tissues, organs and organ systems, giving examples of each. Classify materials as solid, liquid or gas and recognise that materials are made out of particles Describe how solids, liquids and gases change from one state to another. State what diffusion is. State the original source of our energy. State the units for energy. Give examples of energy stores. Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity Investigate and fix some faulty circuits.	Scores 25%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus. State the functions of key parts of the reproductive system. Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name some soluble and insoluble solids; describe how pure water can be obtained from sea water. To identify the difference between physical and chemical reactions. Identify when a chemical reaction is happening. Describe combustion. Know that mass is conserved in a chemical reaction.	Scores 25%+ on the module 3 assessment. Name the planets in order. Know why we have day and night. Know the path of the sun through the sky during a day. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe what a gravitational field is. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Identify similarities and differences between predators and prey. Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards.	Can identify all key variables, lists all equipment in a practical confidently, can identify all the hazards in an experiment, results are in a table and units are correct and can plot a line graph and bar chart with little guidance.
BC2	Scores 18%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Make observations using a microscope and record them in simple drawings. Classify materials as solid, liquid or gas and recognise that materials are made out of particles.	Scores 18%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus. Using the particle model, classify materials as solid, liquid or gas.	Scores 18%+ on the module 3 assessment. Name the planets in order. Know why we have day and night. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction.	Can identify two or more variables, can list equipment in an experiment confidently, identifies two or more hazards in an experiment, can add units in a results table, plot points on a graph and draw bars in a bar chart with some guidance.

	Describe how solids, liquids and gases change from one state to another. State the original source of our energy. Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity.	Classify materials as solid, liquid or gas and recognise that materials are made of particles. To identify the difference between physical and chemical reactions. Identify when a chemical reaction is happening. Describe combustion.	Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis	
BC1	Scores 8%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. State the original source of our energy. Identify circuit components by their symbols. Represent a simple circuit with a diagram.	Scores 8%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Using the particle model, classify materials as solid, liquid or gas. To identify the difference between physical and chemical reactions. Identify when a chemical reaction is happening. Recognise the combustion reaction.	Scores 8%+ on the module 3 assessment. Name the planets in order. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Name some common acids and alkalis stating some everyday uses.	Can identify one variable to control, can list equipment in experiments, can identify one hazard during a practical, can fill in a results table and plot points on a graph with guidance.

Y8	**Term 1:** **Digestion** **Daltons Atomic theory** **Speed** **Breathing and respiration**	**Term 2:** **Earth's resources** **Earth structure** **Periodic table** **Energy**	**Term 3:** **Sound** **Light** **Ecosystems and habitats** **Materials**	**Working scientifically: skills in science**
BC9				
BC8				
BC7				
BC6				
BC5	Scores 75%+ on the module 1 assessment. To identify elements in the periodic table. To describe the structure of the atom. Use the periodic table to determine the number of sub atomic particles. Know the difference between elements, compounds and mixtures. Describe how insoluble solids can be separated from a liquid. Explain what happens to mass in a chemical reaction. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large	Scores 75%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable. To explain why some metals are found in their ore and some are native. To predict if a displacement reaction has occurred. To write word equations. Explain how metals are extracted from their ores using the reactivity series. Explain why recycling of materials is important. State what the periodic table is Know the similarities of elements in the same group.	Scores 75%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves. Explain that sound waves cause our eardrums to vibrate and this enables us to hear. Recognise that sound cannot travel through a vacuum. State what is transferred in a wave. Identify whether objects are transparent, translucent or opaque. Describe how light travels. Be able to explain what reflection is State the law of reflection. Describe a relationship between the angle of refraction and the angle of incidence.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts.

	molecules are broken down during digestion. Describe the role of blood in transporting products of digestion around the body. Name some groups of nutrients and identify some examples of foods in which they are found. Describe a balanced diet. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph. Categorise scenarios into acceleration and deceleration. Illustrate a journey with changing speed on a distance-time graph, and label changes in motion. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply. Identify similarities in aerobic respiration in plants and animals. Recognise the differences in anaerobic respiration in animals and yeast. Describe the difference between inhaled and exhaled air.	Write down symbols on the periodic table. Distinguish between elements, compounds and mixtures. Write word equations. To be able to draw the electronic structure for the first 10 elements. Compare the terms heat and temperature. Define evaporation and condensation. Define expansion and contraction in materials. Describe applications of expansion of solids, liquids and gases. Describe a practical you can do to demonstrate what the best conducting material is. Describe conduction, convection and radiation. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from. Explain erosion as weathering of rock and its movement by water, ice or wind (transportation). Explain why a rock has a particular property based on how it was formed. Identify the causes of weathering and erosion and describe how they occur. Construct a labelled diagram to identify the processes of the rock cycle.	Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. Describe the effect on removing an organism from a food web. Recognise that the abundance and distribution of organisms is different in different habitats. Collect data to estimate the population of target species on the school field. To describe the properties of metal oxides. To know how polymers are made. To describe objects that are either ceramics or composites.	Students have independently labelled the axis. Repeats have been made if this was appropriate.

BC4	Scores 60%+ on the module 1 assessment. To identify elements in the periodic table. To describe the structure of the atom. Use the periodic table to determine the number of sub atomic particles. Know the difference between elements, compounds and mixtures. Describe how insoluble solids can be separated from a liquid. Describe what happens to mass in a chemical reaction. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large molecules are broken down during digestion. Describe the role of blood in transporting products of digestion around the body. Name some groups of nutrients and identify some examples of foods in which they are found. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph. Categorise scenarios into acceleration and deceleration. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply. Identify similarities in aerobic respiration in plants and animals. Recognise the differences in anaerobic respiration in animals and yeast.	Scores 60%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable. To explain why some metals are found in their ore and some are native. To predict if a displacement reaction has occurred. To write word equations. Describe how metals are extracted from their ores using the reactivity series. State what the periodic table is. Know the similarities of elements in the same group. Write down symbols on the periodic table. Distinguish between elements, compounds and mixtures. To be able to draw the electronic structure for the first 10 elements. Compare the terms heat and temperature. Define evaporation and condensation. Define expansion and contraction in materials. Describe applications of expansion of solids, liquids and gases. Describe conduction, convection and radiation. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from.	Scores 60%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves. Explain that sound waves cause our eardrums to vibrate and this enables us to hear. State what is transferred in a wave. Identify whether objects are transparent, translucent or opaque. Describe how light travels. Be able to explain what reflection is. State the law of reflection. Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. Describe the effect on removing an organism from a food web. Recognise that the abundance and distribution of organisms is different in different habitats. To describe the properties of metal oxides. To know how polymers are made. To describe objects that are either ceramics or composites.	Uses the correct terms for independent and dependent variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and units in at least one column are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis.

		Explain erosion as weathering of rock and its movement by water, ice or wind (transportation). Explain why a rock has a particular property based on how it was formed. Identify the causes of weathering and erosion and describe how they occur.		
BC3	Scores 45%+ on the module 1 assessment. To identify elements in the periodic table. To describe the structure of the atom. Know the difference between elements, compounds and mixtures. Describe how insoluble solids can be separated from a liquid. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large molecules are broken down during digestion. Describe the role of blood in transporting products of digestion around the body. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply. Identify similarities in aerobic respiration in plants and animals.	Scores 45%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable. To explain why some metals are found in their ore and some are native. To predict if a displacement reaction has occurred. State what the periodic table is. Know the similarities of elements in the same group. Write down symbols on the periodic table. Compare the terms heat and temperature. Define evaporation and condensation. Define expansion and contraction in materials. Describe conduction, convection and radiation. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from. Explain erosion as weathering of rock and its movement by water, ice or wind (transportation).	Scores 45%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves. State what is transferred in a wave. Identify whether objects are transparent, translucent or opaque. Describe how light travels. Be able to explain what reflection is. Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. Describe the effect on removing an organism from a food web. To know how polymers are made. To describe objects that are either ceramics or composites.	Can identify all key variables, lists all equipment in a practical confidently, can identify all the hazards in an experiment, results are in a table and units are correct and can plot a line graph and bar chart with little guidance.

		Explain why a rock has a particular property based on how it was formed.		
BC2	Scores 30%+ on the module 1 assessment. To identify elements in the periodic table. To describe the structure of the atom. Describe an elements, compounds and mixtures. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large molecules are broken down during digestion. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply.	Scores 30%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose. Define a resource as finite or renewable. To describe why some metals are found in their ore and some are native. State what the periodic table is. Know the similarities of elements in the same group. Compare the terms heat and temperature. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from. Explain erosion as weathering of rock and its movement by water, ice or wind (transportation).	Scores 30%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Define evaporation and condensation. State what is transferred in a wave. Identify whether objects are transparent, translucent or opaque. Describe how light travels. Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. To know how polymers are made. To describe objects that are either ceramics or composites.	Can identify two or more variables, can list equipment in an experiment confidently, identifies two or more hazards in an experiment, can add units in a results table, plot points on a graph and draw bars in a bar chart with some guidance.
BC1	Scores 15%+ on the module 1 assessment. To identify elements in the periodic table. To describe the structure of the atom. Describe an elements, compounds and mixtures. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. State what the periodic table is. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed.	Scores 15%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose. Define a resource as finite or renewable. To describe what a metal ore is. State what the periodic table is. Compare the terms heat and temperature. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core.	Scores 15%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. State what is transferred in a wave. Identify whether objects are transparent, translucent or opaque. Describe how light travels. Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. To identify some polymers. To describe objects that are either ceramics or composites.	Can identify one variable to control, can list equipment in experiments, can identify one hazard during a practical, can fill in a results table and plot points on a graph with guidance.

	Describe the effect of exercise on heart rate and breathing rate.	Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from.		

Y8	**Term 1:** **Digestion** **Daltons Atomic theory** **Speed** **Breathing and respiration**	**Term 2:** **Earth's resources** **Earth structure** **Periodic table** **Energy**	**Term 3:** **Sound** **Light** **Ecosystems and habitats** **Materials**	**Working scientifically: skills in science**
BC9	Scores 90%+ on the module 1 assessment. To identify elements in the periodic table. To describe the subatomic particles and charges. Determine the number of subatomic particles. Apply knowledge of elements, compounds and mixtures. To use balanced symbol equations. Calculate unknown masses of a reaction using the conservation of mass rule. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large molecules are broken down during digestion. Describe the role of blood in transporting products of digestion around the body. Name some groups of nutrients and identify some examples of foods in which they are found. Describe a balanced diet. Recognise that blood transports products of digestion around the body. Explain why some nutrients have to be broken down before they can be used by the body and why some foods cannot be digested by humans. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph.	Scores 90%+ on the module 2 assessment. To be able to compare different materials and identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable. To explain why some metals are found in their ore and some are native. To predict if a displacement reaction has occurred and what the products are. To write word and symbol equations. Explain how metals are extracted from their ores using the reactivity series Explain why recycling of materials is important. State what the periodic table is. Know the similarities of elements in the same group. Write down symbols on the periodic table. Distinguish between elements, compounds and mixtures. Balance chemical equations. Explain why we balance equations. Explain mass changes that occur in chemical reactions. To be able to draw the electronic structure for the first 20 elements.	Scores 90%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves. Explain that sound waves cause our eardrums to vibrate and this enables us to hear. Recognise that sound cannot travel through a vacuum. Suggest the effect of particular ear problems on a person's hearing. Use the particle theory to explain how sound travels through or is absorbed by different. State what is transferred in a wave Identify whether objects are transparent, translucent or opaque. Describe how light travels. Be able to explain what reflection is State the law of reflection. Describe a relationship between the angle of refraction and the angle of incidence. Identify the colours of the spectrum that are visible during dispersion. Be able to identify some common uses for lenses.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student explains how each variable will be controlled and how it will affect the results if it was not controlled. Student explains why the data collection method they have chosen is the best for giving reproducible and precise results. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Student has said to repeat each experiment at least 3 times to get valid results. If repeat are not appropriate, student has explained why. If repeats were recorded, a mean value has been calculated. Student has identified anomalous results and has <u>not</u> included them when calculating the mean values. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts.

	Categorise scenarios into acceleration and deceleration. Illustrate a journey with changing speed on a distance-time graph, and label changes in motion. Suggest how the motion of two objects moving at different speeds in the same direction would appear to the other Predict changes in an object's speed when the forces on it change. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply. Identify similarities in aerobic respiration in plants and animals. Recognise the differences in anaerobic respiration in animals and yeast. Describe the difference between inhaled and exhaled air. Represent the process of aerobic respiration as a word and/symbol equation and identify similarities with the burning of fuels. Describe the features of the alveoli and explain how damaged alveoli result in less gas exchange.	Compare the terms heat and temperature. Define evaporation and condensation. Define expansion and contraction in materials. Describe applications of expansion of solids, liquids and gases. Describe a practical you can do to demonstrate what the best conducting material is. Describe how a vacuum flask works. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from. Explain erosion as weathering of rock and its movement by water, ice or wind (transportation). Explain why a rock has a particular property based on how it was formed. Identify the causes of weathering and erosion and describe how they occur. Construct a labelled diagram to identify the processes of the rock cycle. Identify circumstances that indicate fast processes of change on Earth and those that indicate slower processes. Predict planetary conditions from descriptions of rocks on other planets.	Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. Describe the effect on removing an organism from a food web. Recognise that the abundance and distribution of organisms is different in different habitats. Collect data to estimate the population of target species on the school field. Explain how pyramids of biomass represent feeding relationships in a habitat. Explain how bioaccumulation of chemicals can occur in food chains. To balance a symbol equation. To predict the names of compounds made when metal and non metals react. To describe the properties of metal oxides. To know how polymers are made and the difference between a monomer and polymer. To describe how ceramics and composites are made.	Students have independently labelled the axis.

BC8	Scores 78%+ on the module 1 assessment. To identify elements in the periodic table. To describe the subatomic particles and charges. Determine the number of subatomic particles. Explain the difference between elements, compounds and mixtures. To use balanced symbol equations. Calculate unknown masses of a reaction using the conservation of mass rule. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large molecules are broken down during digestion. Describe the role of blood in transporting products of digestion around the body. Name some groups of nutrients and identify some examples of foods in which they are found. Describe a balanced diet. Recognise that blood transports products of digestion around the body. Explain why some nutrients have to be broken down before they can be used by the body and why some foods cannot be digested by humans. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph. Categorise scenarios into acceleration and deceleration. Illustrate a journey with changing speed on a distance-time graph, and label changes in motion. Suggest how the motion of two objects moving at different speeds in the same direction would appear to the other. Predict changes in an object's speed when the forces on it change.	Scores 78%+ on the module 2 assessment. To be able to compare different materials and identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable. To explain why some metals are found in their ore and some are native. To predict if a displacement reaction has occurred and what the products are. To write word and symbol equations. Explain how metals are extracted from their ores using the reactivity series Explain why recycling of materials is important. Know the similarities of elements in the same group. Write down symbols on the periodic table. Distinguish between elements, compounds and mixtures. Balance chemical equations. Explain why we balance equations. Explain mass changes that occur in chemical reactions. To be able to draw the electronic structure for the first 20 elements. Compare the terms heat and temperature. Define evaporation and condensation. Define expansion and contraction in materials. Describe applications of expansion of solids, liquids and gases. Describe a practical you can do to demonstrate what the best conducting material is. Describe how a vacuum flask works.	Scores 78%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves. Explain that sound waves cause our eardrums to vibrate and this enables us to hear. Recognise that sound cannot travel through a vacuum. Suggest the effect of particular ear problems on a person's hearing. Use the particle theory to explain how sound travels through or is absorbed by different materials. State what is transferred in a wave Identify whether objects are transparent, translucent or opaque. Describe how light travels. Be able to explain what reflection is State the law of reflection. Describe a relationship between the angle of refraction and the angle of incidence. Identify the colours of the spectrum that are visible during dispersion. Be able to identify some common uses for lenses. Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. Describe the effect on removing an organism from a food web. Recognise that the abundance and distribution of organisms is different in different habitats. Collect data to estimate the population of target species on the school field.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student explains how each variable will be controlled and how it will affect the results if it was not controlled. Student explains why the data collection method they have chosen is the best for giving reproducible and precise results. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Student has said to repeat each experiment at least 3 times to get valid results. If repeat are not appropriate, student has explained why. If repeats were recorded, a mean value has been calculated. Student has identified anomalous results and has <u>not</u> included them when calculating the mean values. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis.

	Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply. Identify similarities in aerobic respiration in plants and animals. Recognise the differences in anaerobic respiration in animals and yeast. Describe the difference between inhaled and exhaled air. Represent the process of aerobic respiration as a word and/symbol equation and identify similarities with the burning of fuels. Describe the features of the alveoli and explain how damaged alveoli result in less gas exchange.	Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from. Explain erosion as weathering of rock and its movement by water, ice or wind (transportation). Explain why a rock has a particular property based on how it was formed. Identify the causes of weathering and erosion and describe how they occur. Construct a labelled diagram to identify the processes of the rock cycle. Identify circumstances that indicate fast processes of change on Earth and those that indicate slower processes. Predict planetary conditions from descriptions of rocks on other planets.	Explain how pyramids of biomass represent feeding relationships in a habitat. Explain how bioaccumulation of chemicals can occur in food chains. To balance a symbol equation. To predict the names of compounds made when metal and non metals react. To describe the properties of metal oxides. To know how polymers are made and the difference between a monomer and polymer. To describe how ceramics and composites are made.	
BC7	Scores 63%+ on the module 1 assessment. To identify elements in the periodic table. To describe the subatomic particles and charges. Determine the number of subatomic particles. Explain the difference between elements, compounds and mixtures. To use word and symbol equations. Explain what happens to mass in a chemical reaction using data. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body.	Scores 63%+ on the module 2 assessment. To be able to compare different materials and identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable. To explain why some metals are found in their ore and some are native. To predict if a displacement reaction has occurred and what the products are. To write word and symbol equations.	Scores 63%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves. Explain that sound waves cause our eardrums to vibrate and this enables us to hear. Recognise that sound cannot travel through a vacuum. Suggest the effect of particular ear problems on a person's hearing.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student explains how each variable will be controlled and how it will affect the results if it was not controlled. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Student has said to repeat each experiment at least 3 times to get valid

	Use a model to describe how large molecules are broken down during digestion. Describe the role of blood in transporting products of digestion around the body. Name some groups of nutrients and identify some examples of foods in which they are found. Describe a balanced diet. Recognise that blood transports products of digestion around the body. Explain why some nutrients have to be broken down before they can be used by the body and why some foods cannot be digested by humans. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph. Categorise scenarios into acceleration and deceleration Illustrate a journey with changing speed on a distance-time graph, and label changes in motion. Suggest how the motion of two objects moving at different speeds in the same direction would appear to the other Predict changes in an object's speed when the forces on it change. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply. Identify similarities in aerobic respiration in plants and animals. Recognise the differences in anaerobic respiration in animals and yeast. Describe the difference between inhaled and exhaled air.	Explain how metals are extracted from their ores using the reactivity series Explain why recycling of materials is important. State what the periodic table is. Know the similarities of elements in the same group. Write down symbols on the periodic table. Distinguish between elements, compounds and mixtures. Balance chemical equations. Explain why we balance equations. Explain mass changes that occur in chemical reactions. To be able to draw the electronic structure for the first 20 elements. Compare the terms heat and temperature. Define evaporation and condensation. Define expansion and contraction in materials. Describe applications of expansion of solids, liquids and gases. Describe a practical you can do to demonstrate what the best conducting material is. Describe how a vacuum flask works. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from.	Use the particle theory to explain how sound travels through or is absorbed by different materials. State what is transferred in a wave Identify whether objects are transparent, translucent or opaque. Describe how light travels. Be able to explain what reflection is State the law of reflection. Describe a relationship between the angle of refraction and the angle of incidence. Identify the colours of the spectrum that are visible during dispersion. Be able to identify some common uses for lenses. Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. Describe the effect on removing an organism from a food web. Recognise that the abundance and distribution of organisms is different in different habitats. Collect data to estimate the population of target species on the school field. Explain how pyramids of biomass represent feeding relationships in a habitat. Explain how bioaccumulation of chemicals can occur in food chains. To balance a symbol equation. To predict the names of compounds made when metal and non metals react. To describe the properties of metal oxides.	results. If repeat are not appropriate, student has explained why. If repeats were recorded, a mean value has been calculated. Student has identified anomalous results and has <u>not</u> included them when calculating the mean values. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis.

	Represent the process of aerobic respiration as a word and/symbol equation and identify similarities with the burning of fuels. Describe the features of the alveoli and explain how damaged alveoli result in less gas exchange.	Explain erosion as weathering of rock and its movement by water, ice or wind (transportation). Explain why a rock has a particular property based on how it was formed. Identify the causes of weathering and erosion and describe how they occur. Construct a labelled diagram to identify the processes of the rock cycle. Identify circumstances that indicate fast processes of change on Earth and those that indicate slower processes. Predict planetary conditions from descriptions of rocks on other planets.	To know how polymers are made and the difference between a monomer and polymer. To describe how ceramics and composites are made.	
BC6	Scores 57%+ on the module 1 assessment. To identify elements in the periodic table. To describe the subatomic particles and charges. Determine the number of subatomic particles. Explain the difference between elements, compounds and mixtures. To use word equations. Explain what happens to mass in a chemical reaction. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large molecules are broken down during digestion. Describe the role of blood in transporting products of digestion around the body. Name some groups of nutrients and identify some examples of foods in which they are found. Describe a balanced diet. Recognise that blood transports products of digestion around the body. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed.	Scores 57%+ on the module 2 assessment. To be able to compare different materials and identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable. To explain why some metals are found in their ore and some are native. To predict if a displacement reaction has occurred. To write word equations. Explain how metals are extracted from their ores using the reactivity series Explain why recycling of materials is important. State what the periodic table is. Know the similarities of elements in the same group. Write down symbols on the periodic table. Distinguish between elements, compounds and mixtures. Balance chemical equations. Explain why we balance equations.	Scores 57%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves. Explain that sound waves cause our eardrums to vibrate and this enables us to hear. Recognise that sound cannot travel through a vacuum. Suggest the effect of particular ear problems on a person's hearing. State what is transferred in a wave Identify whether objects are transparent, translucent or opaque. Describe how light travels. Be able to explain what reflection is State the law of reflection. Describe a relationship between the angle of refraction and the angle of incidence. Identify the colours of the spectrum that are visible during dispersion. Identify and name organisms found in a particular habitat and describe how	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Student has said to repeat each experiment at least 3 times to get valid results. If repeat are not appropriate, student has explained why. If repeats were recorded, a mean value has been calculated. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis.

	Show what constant speed looks like on a distance-time graph. Categorise scenarios into acceleration and deceleration. Illustrate a journey with changing speed on a distance-time graph, and label changes in motion. Suggest how the motion of two objects moving at different speeds in the same direction would appear to the other. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply. Identify similarities in aerobic respiration in plants and animals. Recognise the differences in anaerobic respiration in animals and yeast. Describe the difference between inhaled and exhaled air. Represent the process of aerobic respiration as a word and/symbol equation and identify similarities with the burning of fuels.	To be able to draw the electronic structure for the first 10 elements. Compare the terms heat and temperature. Define evaporation and condensation. Define expansion and contraction in materials. Describe applications of expansion of solids, liquids and gases. Describe a practical you can do to demonstrate what the best conducting material is. Describe the processes of conduction, convection and radiation. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from. Explain erosion as weathering of rock and its movement by water, ice or wind (transportation). Explain why a rock has a particular property based on how it was formed. Identify the causes of weathering and erosion and describe how they occur. Construct a labelled diagram to identify the processes of the rock cycle. Identify circumstances that indicate fast processes of change on Earth and those that indicate slower processes.	they are adapted to the environmental conditions. Describe the effect on removing an organism from a food web. Recognise that the abundance and distribution of organisms is different in different habitats. Collect data to estimate the population of target species on the school field. Explain how pyramids of biomass represent feeding relationships in a habitat. To predict the names of compounds. made when metal and non metals react. To describe the properties of metal oxides. To know how polymers are made and the difference between a monomer and polymer. To describe the difference between ceramics and polymers.	

BC5	Scores 42%+ on the module 1 assessment. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large molecules are broken down during digestion. Describe the role of blood in transporting products of digestion around the body. Name some groups of nutrients and identify some examples of foods in which they are found. Describe a balanced diet. To identify elements in the periodic table. To describe the structure of the atom. Use the periodic table to determine the number of sub atomic particles. Know the difference between elements, compounds and mixtures. Describe how insoluble solids can be separated from a liquid. Explain what happens to mass in a chemical reaction. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph. Categorise scenarios into acceleration and deceleration. Illustrate a journey with changing speed on a distance-time graph, and label changes in motion. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply. Identify similarities in aerobic respiration in plants and animals.	Scores 42%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable. To explain why some metals are found in their ore and some are native. To predict if a displacement reaction has occurred. To write word equations. Explain how metals are extracted from their ores using the reactivity series. Explain why recycling of materials is important. State what the periodic table is. Identify groups on the periodic table Know the similarities of elements in the same group. Write down symbols on the periodic table. Distinguish between elements, compounds and mixtures. Write word equations. To be able to draw the electronic structure for the first 10 elements. Compare the terms heat and temperature. Define evaporation and condensation. Define expansion and contraction in materials. Describe applications of expansion of solids, liquids and gases. Describe a practical you can do to demonstrate what the best conducting material is. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years	Scores 42%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves. Explain that sound waves cause our eardrums to vibrate and this enables us to hear. Recognise that sound cannot travel through a vacuum. State what is transferred in a wave Identify whether objects are transparent, translucent or opaque. Describe how light travels. Be able to explain what reflection is State the law of reflection. Describe a relationship between the angle of refraction and the angle of incidence. Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. Describe the effect on removing an organism from a food web. Recognise that the abundance and distribution of organisms is different in different habitats. Collect data to estimate the population of target species on the school field. To describe the properties of metal oxides. To know how polymers are made. To describe objects that are either ceramics or composites.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis. Repeats have been made if this was appropriate.

	Recognise the differences in anaerobic respiration in animals and yeast. Describe the difference between inhaled and exhaled air.	through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from. Explain erosion as weathering of rock and its movement by water, ice or wind (transportation). Explain why a rock has a particular property based on how it was formed. Identify the causes of weathering and erosion and describe how they occur. Construct a labelled diagram to identify the processes of the rock cycle.		
BC4	Scores 33%+ on the module 1 assessment. To identify elements in the periodic table. To describe the structure of the atom. Use the periodic table to determine the number of sub atomic particles. Know the difference between elements, compounds and mixtures. Describe how insoluble solids can be separated from a liquid. Describe what happens to mass in a chemical reaction. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large molecules are broken down during digestion. Describe the role of blood in transporting products of digestion around the body. Name some groups of nutrients and identify some examples of foods in which they are found.	Scores 33%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable. To explain why some metals are found in their ore and some are native. To predict if a displacement reaction has occurred. To write word equations. Describe how metals are extracted from their ores using the reactivity series. State what the periodic table is Identify groups on the periodic table. Know the similarities of elements in the same group. Write down symbols on the periodic table. Distinguish between elements, compounds and mixtures.	Scores 33%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves. Explain that sound waves cause our eardrums to vibrate and this enables us to hear. State what is transferred in a wave. Identify whether objects are transparent, translucent or opaque. Describe how light travels. Be able to explain what reflection is. State the law of reflection. Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. Describe the effect on removing an organism from a food web.	Uses the correct terms for independent and dependent variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and units in at least one column are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis.

	Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph. Categorise scenarios into acceleration and deceleration. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply. Identify similarities in aerobic respiration in plants and animals. Recognise the differences in anaerobic respiration in animals and yeast.	Compare the terms heat and temperature. Define evaporation and condensation. Define expansion and contraction in materials. Describe applications of expansion of solids, liquids and gases. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from. Explain erosion as weathering of rock and its movement by water, ice or wind (transportation). Explain why a rock has a particular property based on how it was formed. Identify the causes of weathering and erosion and describe how they occur.	Recognise that the abundance and distribution of organisms is different in different habitats. To describe the properties of metal oxides. To know how polymers are made. To describe objects that are either ceramics or composites.	
BC3	Scores 25%+ on the module 1 assessment. To identify elements in the periodic table. To describe the structure of the atom. Know the difference between elements, compounds and mixtures. Describe how insoluble solids can be separated from a liquid. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large molecules are broken down during digestion.	Scores 25%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable. To explain why some metals are found in their ore and some are native. To predict if a displacement reaction has occurred. State what the periodic table is. Identify groups on the periodic table. Know the similarities of elements in the same group.	Scores 25%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves. Explain why a rock has a particular property based on how it was formed. State what is transferred in a wave Identify whether objects are transparent, translucent or opaque. Describe how light travels. Be able to explain what reflection is	Can identify all key variables, lists all equipment in a practical confidently, can identify all the hazards in an experiment, results are in a table and units are correct and can plot a line graph and bar chart with little guidance.

	Describe the role of blood in transporting products of digestion around the body. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply. Identify similarities in aerobic respiration in plants and animals. .	Write down symbols on the periodic table. Compare the terms heat and temperature. Define evaporation and condensation. Define expansion and contraction in materials. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from. Explain erosion as weathering of rock and its movement by water, ice or wind (transportation).	Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. Describe the effect on removing an organism from a food web. To know how polymers are made. To describe objects that are either ceramics or composites.	
BC2	Scores 18%+ on the module 1 assessment. To identify elements in the periodic table. To describe the structure of the atom. Describe an elements, compounds and mixtures. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large molecules are broken down during digestion. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply.	Scores 18%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose. Define a resource as finite or renewable. To describe why some metals are found in their ore and some are native. State what the periodic table is. Know the similarities of elements in the same group. Compare the terms heat and temperature. Define evaporation and condensation. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years	Scores 18%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. State what is transferred in a wave. Identify whether objects are transparent, translucent or opaque. Describe how light travels. Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. To know how polymers are made. To describe objects that are either ceramics or composites.	Can identify two or more variables, can list equipment in an experiment confidently, identifies two or more hazards in an experiment, can add units in a results table, plot points on a graph and draw bars in a bar chart with some guidance.

		through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from. Explain erosion as weathering of rock and its movement by water, ice or wind (transportation).		
BC1	Scores 8%+ on the module 1 assessment. To identify elements in the periodic table. To describe the structure of the atom. Describe an elements, compounds and mixtures. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Describe the effect of exercise on heart rate and breathing rate.	Scores 8%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose. Define a resource as finite or renewable. To describe what a metal ore is. State what the periodic table is. Compare the terms heat and temperature. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from.	Scores 8%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. State what is transferred in a wave. Identify whether objects are transparent, translucent or opaque. Describe how light travels. Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. To identify a polymer. To describe objects that are either ceramics or composites.	Can identify one variable to control, can list equipment in experiments, can identify one hazard during a practical, can fill in a results table and plot points on a graph with guidance.

	Brockington Science Department Year 9- Core	
Y9	**Term 1** **Magnetism and electromagnetism** **Metals and non metals** **Atmosphere**	**Term 2** **Inheritance and evolution** **Electricity** **Energetics**
BC9		
BC8		
BC7		
BC6		
BC5	Scores 75%+ on the topic tests. Justify the use of specific metals and non metals for different applications. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To write a word equation for a displacement reaction. Describe metal oxide and salt reactions using word equations. To investigate how a metal carbonate reacts with an acid. To describe a metal hydroxide and an acid as a neutralisation reaction. State what rusting is. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Describe global warming and greenhouse effect. Explain how we extract metals. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force.	Scores 75%+ on the topic tests. To define what is meant by variation. To be able to explain what causes variation between individuals. To describe the role of Franklin, Watson and Crick in the models we now use for the structure DNA. To determine how the number of chromosomes changes during cell division, production of sex cells and fertilisation. To apply knowledge of alleles and characteristics to determine phenotype and genotype of an organism. Predict the results of genetic crosses. To suggest how animals and plants are adapted to their surroundings. To define natural selection. To describe and evaluate Darwin's theory of evolution. Describe how fossils are formed. Describe how biodiversity helps avoid extinction. Define exothermic and endothermic reactions and give an example of each. Identify whether a reaction profile shows an exothermic or endothermic reaction. Describe how catalysts speed up reactions by lowering the activation energy. state what combustion and incomplete combustion is. State what thermal decomposition is.

	Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made. Test how the number of coils affects strength of an electromagnet.	To **describe** a method for measuring the energy in fuels. To describe the differences between series and parallel circuit, including the behaviour of current and voltage. Explain how increasing voltage effects the circuit. Calculate the resistance in a circuit. Explain how static charge can be generated. Explain that charged objects have fields around them and how this affects their interaction with each other.
BC4	Scores 60%+ on topic tests. Describe the use of specific metals and non metals for different applications. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To write a word equation for a displacement reaction. Describe metal oxide and salt reactions using word equations. To investigate how a metal carbonate reacts with an acid. To describe a metal hydroxide and an acid as a neutralisation reaction. State what rusting is. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Describe global warming and greenhouse effect. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made.	Scores 60%+ on topic tests. To define what is meant by variation. To be able to explain what causes variation between individuals. To describe what is meant by DNA, chromosomes and genes. To describe how characteristics are passed from parent to offspring. Define allele and how they can be dominant or recessive. To suggest how animals and plants are adapted to their surroundings. To define natural selection. To state that adaptations may lead to evolution. Describe how fossils are formed. Define extinction. Define exothermic and endothermic reactions and give an example of each. Identify whether a reaction profile shows an exothermic or endothermic reaction Describe how catalysts speed up reactions by lowering the activation energy. state what combustion and incomplete combustion is. State what thermal decomposition is. To **describe** a method for measuring the energy in fuels. Explain what is meant by current. Describe what voltage does in a circuit. Describe what resistance is and how it affects a circuit. Know the difference between a series and parallel circuit. Create a simple model of electricity.

BC3	Scores 45%+ on topic tests. Describe the use of specific metals and non metals for different applications. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To know what a displacement reaction is. Describe metal oxide and salt reactions using word equations. To investigate how a metal carbonate reacts with an acid. State what happens in a neutralisation reaction. State what rusting is. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle.	Describe circuits and draw circuit diagrams correctly. Be able to measure the current and voltage with help in a circuit. Recognise the effects of static charge. To define what is meant by variation. To be able to explain what causes variation between individuals. To describe how characteristics are passed from parent to offspring. To suggest how animals and plants are adapted to their surroundings. To define natural selection. Describe what a fossil is. Define extinction. Define exothermic and endothermic reactions and give an example of each Define catalyst. state what combustion and incomplete combustion is.
BC2	Scores 30%+ on the topic tests. Describe the use of specific metals and non metals. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen. State what happens in a neutralisation reaction. State what rusting is. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram.	Scores 30%+ on the topic tests. To define what is meant by variation. To define what is meant by DNA. To list how animals and plants are adapted to their surroundings. To define natural selection. Describe what a fossil is. Define extinction. Define exothermic and endothermic reactions and give an example of each Define catalyst. state what combustion and incomplete combustion is. Describe circuits and draw circuit diagrams correctly. Be able to measure the current and voltage with help in a circuit. Recognise the effects of static charge.
BC1	Scores 15%+ on the topic tests. Describe the use of specific metals and non metals. To describe the reactions between metals and oxygen. State what happens in a neutralisation reaction.	Scores 15%+ on the topic tests. To define what is meant by variation. To list how animals and plants are adapted to their surroundings. Describe what a fossil is.

	State what rusting is. State what resources we use from the Earth. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram.	Define extinction. Define exothermic and endothermic reactions and give an example of each Define catalyst. state what combustion and incomplete combustion is. Describe circuits and draw circuit diagrams correctly. Be able to measure the current and voltage with help in a circuit. Recognise the effects of static charge.

	Brockington Science Department Year 9- Extended	
Y9	**Term 1** **Magnetism and electromagnetism** **Metals and non metals** **Atmosphere**	**Term 2** **Inheritance and evolution** **Electricity** **Energetics**
BC9	Scores 90%+ on the topic tests. Justify the use of specific metals and non metals for different applications. Balance the symbol equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To write a word and symbol equation for a displacement reaction. Describe metal oxide and salt reactions using word and symbol equations To investigate how a metal carbonate reacts with an acid. To investigate a metal hydroxide and how it reacts with an acid in a neutralisation reaction. Apply your knowledge of rusting to explain how to reduce it. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Describe global warming and greenhouse effect. Explain how we extract metals. Evaluate the methods used for extracting metals. Explain problems associated with global warming. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made. Test how the number of coils affects strength of an electromagnet. Plot a graph of number of coils against paper clips picked up. Be able to describe the 'motor effect' and how to make a simple motor.	Scores 90%+ on the topic tests. To define what is meant by variation. To be able to explain what causes variation between individuals. To explain the role of Franklin, Watson and Crick in the models we now use for the structure DNA. To determine how the number of chromosomes changes during cell division, production of sex cells and fertilisation. To apply knowledge of alleles and characteristics to determine phenotype and genotype of an organism. Use and interpret Punnett square diagrams. To suggest how animals and plants are adapted to their surroundings. To predict and explain the changes in a population over time due to natural selection. To describe and evaluate Darwin's theory of evolution. Describe how fossils are formed. Explain how lack of biodiversity can affect a population. To define exothermic and endothermic reactions and give an example of each. Use a diagram of relative energy levels of particles to explain energy changes observed during a change of state. Explain how catalysts speed up reactions by lowering the activation energy. Compare complete and incomplete combustion. State the products of thermal decomposition of different reactions. To **calculate** the energy content of a fuel. • Explain how materials allow current to flow. Investigate and identify the relationship between current and voltage. Explain static charge as electron transfer and be able to apply this to various examples. Be confident rearranging the equation V=IR to calculate different variables.

BC8	Scores 78%+ on the topic tests. Justify the use of specific metals and non metals for different applications. Balance the symbol equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To write a word and symbol equation for a displacement reaction. Describe metal oxide and salt reactions using word and symbol equations. To investigate how a metal carbonate reacts with an acid. To investigate a metal hydroxide and how it reacts with an acid in a neutralisation reaction. Apply your knowledge of rusting to explain how to reduce it. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Describe global warming and greenhouse effect. Explain how we extract metals. Evaluate the methods used for extracting metals. Explain problems associated with global warming. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made. Test how the number of coils affects strength of an electromagnet. Plot a graph of number of coils against paper clips picked up. Be able to describe the 'motor effect' and how to make a simple motor.	Scores 78%+ on the topic tests. To define what is meant by variation. To be able to explain what causes variation between individuals. To explain the role of Franklin, Watson and Crick in the models we now use for the structure DNA. To determine how the number of chromosomes changes during cell division, production of sex cells and fertilisation. To apply knowledge of alleles and characteristics to determine phenotype and genotype of an organism. Use and interpret Punnett square diagrams. To suggest how animals and plants are adapted to their surroundings. To predict and explain the changes in a population over time due to natural selection. To describe and evaluate Darwin's theory of evolution. Describe how fossils are formed. Explain how lack of biodiversity can affect a population. To define exothermic and endothermic reactions and give an example of each. Use a diagram of relative energy levels of particles to explain energy changes observed during a change of state. Explain how catalysts speed up reactions by lowering the activation energy. Compare complete and incomplete combustion. State the products of thermal decomposition of different reactions. To **calculate** the energy content of a fuel. Explain how materials allow current to flow. Investigate and identify the relationship between current and voltage. Explain static charge as electron transfer and be able to apply this to various examples. Be confident rearranging the equation V=IR to calculate different variables.
BC7	Scores 63%+ on the topic tests. Justify the use of specific metals and non metals for different applications. Balance the symbol equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To write a word and symbol equation for a displacement reaction. Describe metal oxide and salt reactions using word and symbol equations To investigate how a metal carbonate reacts with an acid. To investigate a metal hydroxide and how it reacts with an acid in a neutralisation reaction.	Scores 63%+ on the topic tests. To define what is meant by variation. To be able to explain what causes variation between individuals. To describe the role of Franklin, Watson and Crick in the models we now use for the structure DNA. To determine how the number of chromosomes changes during cell division, production of sex cells and fertilisation. To apply knowledge of alleles and characteristics to determine phenotype and genotype of an organism. Use and interpret Punnett square diagrams.

	Apply your knowledge of rusting to explain how to reduce it. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Describe global warming and greenhouse effect. Explain how we extract metals. Evaluate the methods used for extracting metals. Explain problems associated with global warming. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made. Test how the number of coils affects strength of an electromagnet. Plot a graph of number of coils against paper clips picked up. Be able to describe the 'motor effect' and how to make a simple motor.	To suggest how animals and plants are adapted to their surroundings. To predict and explain the changes in a population over time due to natural selection. To describe and evaluate Darwin's theory of evolution. Describe how fossils are formed. Explain how lack of biodiversity can affect a population. To define exothermic and endothermic reactions and give an example of each. Use a diagram of relative energy levels of particles to explain energy changes observed during a change of state. Explain how catalysts speed up reactions by lowering the activation energy. Compare complete and incomplete combustion. State the products of thermal decomposition of different reactions. To **calculate** the energy content of a fuel. Explain how materials allow current to flow. Investigate and identify the relationship between current and voltage. Explain static charge as electron transfer and be able to apply this to various examples. Be confident rearranging the equation V=IR to calculate different variables.
BC6	Scores 57%+ on the topic tests. Justify the use of specific metals and non metals for different applications. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To write a word equation for a displacement reaction. Describe metal oxide and salt reactions using word equations. To investigate how a metal carbonate reacts with an acid. To investigate a metal hydroxide and how it reacts with an acid in a neutralisation reaction. Apply your knowledge of rusting to explain how to reduce it. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Describe global warming and greenhouse effect. Explain how we extract metals. Evaluate the methods used for extracting metals. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching.	Scores 57%+ on the topic tests. To define what is meant by variation. To be able to explain what causes variation between individuals. To describe the role of Franklin, Watson and Crick in the models we now use for the structure DNA. To determine how the number of chromosomes changes during cell division, production of sex cells and fertilisation. To apply knowledge of alleles and characteristics to determine phenotype and genotype of an organism. Predict the results of genetic crosses. To suggest how animals and plants are adapted to their surroundings. To define natural selection. To describe and evaluate Darwin's theory of evolution. Describe how fossils are formed. Describe how biodiversity helps avoid extinction. To define exothermic and endothermic reactions and give an example of each. Use a diagram of relative energy levels of particles to explain energy changes observed during a change of state. Explain how catalysts speed up reactions by lowering the activation energy. State what combustion and incomplete combustion is.

	Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made. Test how the number of coils affects strength of an electromagnet. Plot a graph of number of coils against paper clips picked up.	State what thermal decomposition is. To **describe** a method for measuring the energy in fuels. Explain how materials allow current to flow. Investigate and identify the relationship between current and voltage. Explain static charge as electron transfer and be able to apply this to various examples. Be confident rearranging the equation V=IR to calculate different variables.
BC5	Scores 42%+ on the topic tests. Justify the use of specific metals and non metals for different applications. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To write a word equation for a displacement reaction. Describe metal oxide and salt reactions using word equations. To investigate how a metal carbonate reacts with an acid. To describe a metal hydroxide and an acid as a neutralisation reaction. State what rusting is. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Describe global warming and greenhouse effect. Explain how we extract metals. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made. Test how the number of coils affects strength of an electromagnet.	Scores 42%+ on the topic tests. To define what is meant by variation. To be able to explain what causes variation between individuals. To describe the role of Franklin, Watson and Crick in the models we now use for the structure DNA. To determine how the number of chromosomes changes during cell division, production of sex cells and fertilisation. To apply knowledge of alleles and characteristics to determine phenotype and genotype of an organism. Predict the results of genetic crosses. To suggest how animals and plants are adapted to their surroundings. To define natural selection. To describe and evaluate Darwin's theory of evolution. Describe how fossils are formed. Describe how biodiversity helps avoid extinction. Define exothermic and endothermic reactions and give an example of each. Identify whether a reaction profile shows an exothermic or endothermic reaction. Describe how catalysts speed up reactions by lowering the activation energy. State what combustion and incomplete combustion is. State what thermal decomposition is. To **describe** a method for measuring the energy in fuels. To describe the differences between series and parallel circuit, including the behaviour of current and voltage. Explain how increasing voltage effects the circuit. Calculate the resistance in a circuit. Explain how static charge can be generated. Explain that charged objects have fields around them and how this affects their interaction with each other.
BC4	Scores 33%+ on the topic tests. Describe the use of specific metals and non metals for different applications. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen.	Scores 33%+ on the topic tests. To define what is meant by variation. To be able to explain what causes variation between individuals To describe what is meant by DNA, chromosomes and genes.

	To write a word equation for a displacement reaction. Describe metal oxide and salt reactions using word equations. To investigate how a metal carbonate reacts with an acid. To describe a metal hydroxide and an acid as a neutralisation reaction. State what rusting is. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Describe global warming and greenhouse effect. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made.	To describe how characteristics are passed from parent to offspring. Define allele and how they can be dominant or recessive. To suggest how animals and plants are adapted to their surroundings. To define natural selection. To state that adaptations may lead to evolution Describe how fossils are formed. Define extinction. Define exothermic and endothermic reactions and give an example of each. Identify whether a reaction profile shows an exothermic or endothermic reaction. Describe how catalysts speed up reactions by lowering the activation energy. State what combustion and incomplete combustion is. State what thermal decomposition is. To **describe** a method for measuring the energy in fuels. Explain what is meant by current. Describe what voltage does in a circuit. Describe what resistance is and how it affects a circuit. Know the difference between a series and parallel circuit. Create a simple model of electricity.
BC3	Scores 25%+ on the topic tests. Describe the use of specific metals and non metals for different applications. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To know what a displacement reaction is. Describe metal oxide and salt reactions using word equations. To investigate how a metal carbonate reacts with an acid. State what happens in a neutralisation reaction. State what rusting is. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle.	Scores 25%+ on the topic tests. To define what is meant by variation. To be able to explain what causes variation between individuals. To define what is meant by DNA, chromosomes and genes. To describe how characteristics are passed from parent to offspring. To suggest how animals and plants are adapted to their surroundings. To define natural selection. To state that adaptations may lead to evolution. Describe what a fossil is. Define extinction. Define exothermic and endothermic reactions and give an example of each. Identify whether a reaction profile shows an exothermic or endothermic reaction. Describe how catalysts speed up reactions by lowering the activation energy. State what combustion and incomplete combustion is. State what thermal decomposition is. To **describe** a method for measuring the energy in fuels. Describe circuits and draw circuit diagrams correctly. Be able to measure the current and voltage with help in a circuit. Recognise the effects of static charge.

BC2	Scores 18%+ on the topic tests. Describe the use of specific metals and non metals. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen. Describe metal oxide and salt reactions using word equations State what happens in a neutralisation reaction. State what rusting is. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram.	Scores 18%+ on the topic tests. To define what is meant by variation. To define what is meant by DNA. To list how animals and plants are adapted to their surroundings. To define natural selection. Describe what a fossil is. Define extinction. Define exothermic and endothermic reactions and give an example of each Define catalyst. State what combustion and incomplete combustion is. Describe circuits and draw circuit diagrams correctly. Be able to measure the current and voltage with help in a circuit. Recognise the effects of static charge.
BC1	Scores 8%+ on the topic tests. Describe the use of specific metals and non metals. To describe the reactions between metals and oxygen. State what happens in a neutralisation reaction. State what rusting is. State what resources we use from the Earth. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram.	Scores 8%+ on the topic tests. To define what is meant by variation. To list how animals and plants are adapted to their surroundings. Describe what a fossil is. Define extinction. Describe circuits and draw circuit diagrams correctly. Be able to measure the current and voltage with help in a circuit. Recognise the effects of static charge. Define exothermic and endothermic reactions and give an example of each Define catalyst. State what combustion and incomplete combustion is.